

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 03482.00010	FOR FURTHER ACTION	see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.
International application No. PCT/US03/25614	International filing date (<i>day/month/year</i>) 15 August 2003 (15.08.2003)	(Earliest) Priority Date (<i>day/month/year</i>) 15 August 2002 (15.08.2002)
Applicant GENZYME CORPORATION		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 6 sheets.



It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the Report

a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.



the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing:



contained in the international application in written form.



filed together with the international application in computer readable form.



furnished subsequently to this Authority in written form.



furnished subsequently to this Authority in computer readable form.



the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.



the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☒ **Unity of invention is lacking** (See Box II).

4. With regard to the **title**,



the text is approved as submitted by the applicant.



the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,



the text is approved as submitted by the applicant.



the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No. _____



as suggested by the applicant.



because the applicant failed to suggest a figure.



because this figure better characterizes the invention.



None of the figures

INTERNATIONAL SEARCH REPORT

International application No.

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Box I Observations where certain claims were found unsearchable (Continuation of Item 1 of first sheet)

This international report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claim Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claim Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claim Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of Item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:
Please See Continuation Sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.: 1-13 [drawn to delta(translocon-associated protein delta)]

Remark on Protest

☐
☐

The additional search fees were accompanied by the applicant's protest.

No protest accompanied the payment of additional search fees.

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International application No.

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A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : C12Q 1/00, 1/68, 1/70; G01N 33/53, 33/567, 33/569

US CL : 435/4, 5, 6, 7.1, 7.2, 7.21

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 435/4, 5, 6, 7.1, 7.2, 7.21

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
Please See Continuation Sheet**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WANG, Z. ET AL. Cloning and molecular characterization of a human ortholog of Monodelphis TRAP in ultraviolet B-induced melanoma. Melanoma Research. April 2004, Vol. 14, No. 2, pp. 107-114, entire document.	1-13
A	MIYAZAKI, K. ET AL. NEDL1, a Novel Ubiquitin-protein Isopeptide Ligase for Dishevelled-1, Targets Mutant Superoxide Dismutase-1. The Journal of Biological Chemistry. 19 March 2004, Vol. 279, No. 12, pages 11327-11335, entire document.	1-13
A	BRENNER, V. ET AL. Genomic Organization of Two Novel Genes on Human Xq28: Compact Head to Head Arrangement of IDHgamma and TRAPdelta is Conserved in Rat and Mouse. Genomics. 15 August 1997, Vol. 44, No. 1, pages 8-14, entire document.	1-13
A	KUNST, C.B. ET AL. Mutations in SOD1 associated with amyotrophic lateral sclerosis cause novel protein interactions. Nature Genetics. January 1997, Vol. 15, No. 1, pp. 91-94, entire document.	1-13



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents:	
"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"E" earlier application or patent published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search 15 February 2005 (15.02.2005)	Date of mailing of the international search report 27 DEC 2005
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (571) 273-3201	Authorized officer <i>J. Roberts for</i> Christopher J Nichols, Ph.D. Telephone No. (571) 273-1600

Form PCT/ISA/210 (second sheet) (July 1998)

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C. (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>GIALLONGO, A. ET AL. Structural features of the human gene for muscle-specific enolase differential splicing in the 5'-untranslated sequence generates two forms of mRNA. Eur. J. Biochem. 1993, Vol. 214, pages 367-374, entire document.</p>	1-13

BOX II. OBSERVATIONS WHERE UNITY OF INVENTION IS LACKING

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1. In order for all inventions to be examined, the appropriate additional examination fees must be paid.

Group 1, claim(s) 1-13, drawn to a method to aid in diagnosing glioma comprising the steps of detecting an expression product.

Group 2, claim(s) 14-21, drawn to a method of treating a glioma comprising the steps of administering an antibody.

Group 3, claim(s) 22-35 and 47-60, drawn to a method of identifying a test compound as a potential anti-cancer or anti-glioma drug.

Group 4, claim(s) 36-46, drawn to a method to aid in diagnosing glioma comprising the steps of detecting an mRNA.

Group 5, claim(s) 61-67, drawn to a method to induce an immune response to glioma.

This application contains claims directed to more than one species of the generic invention. These species are deemed to lack unity of invention because they are not so linked as to form a single general inventive concept under PCT Rule 13.1. The species listed do not share a common structure or function.

The following claim(s) are generic:

Group 1, Claim 1, all species listed therein.

Group 2, Claim 14, all species listed therein.

Group 3, Claims 22 and 47, all species listed therein in each claim.

Group 4, Claim 36, all species listed therein.

Group 5, Claim 61, all species listed therein.

In order for more than one species to be examined, the appropriate additional examination fees must be paid.

Applicant is invited to select one species per generic claim listed per group elected.

The inventions listed as Groups 1-5 do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

Group 1 is drawn to the special technical feature of detecting an expression product, which is not shared by any of the other groups.

Group 2 is drawn to the special technical feature of administering an antibody, which is not shared by any of the other groups.

Group 3 is drawn to the special technical feature of identifying a test compound, which is not shared by any of the other groups.

Group 4 is drawn to the special technical feature of detecting an mRNA, which is not shared by any of the other groups.

Group 5 is drawn to the special technical feature of inducing an immune response, which is not shared by any of the other groups.

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Continuation of B. FIELDS SEARCHED Item 3:

WEST (USPT, PGPUBS, USOCR, JPO, EPO, DERWENT); NCBI (PUBMED); STN (BIOSCIENCE)

delta(translocon-associated protein delta); colorectal tumor, colon tumor, colon cancer, colorectal cancer, gene expression, ESTs, microarrays